

## ABSTRACT

A system for measuring a glucose level in a blood sample includes a test strip and a meter. The test strip includes a sample chamber, a working electrode, a counter electrode, fill-detect electrodes, and an auto-on conductor. A reagent layer is disposed in the sample chamber.

5 The auto-on conductor causes the meter to wake up and perform a test strip sequence when the test strip is inserted in the meter. The meter uses the working and counter electrodes to initially detect the blood sample in the sample chamber and uses the fill-detect electrodes to check that the blood sample has mixed with the reagent layer. The meter applies an assay voltage between the working and counter electrodes and measures the resulting current. The meter calculates the  
10 glucose level based on the measured current and calibration data saved in memory from a removable data storage device associated with the test strip.